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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,574	07/30/2001	Alberto Ginesi	10.1019	2616

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EXAMINER	
LEE, JOHN J	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,574	GINESI ET AL.	
	Examiner	Art Unit	
	JOHN J. LEE	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments with respect to claims 1 – 27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1 - 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US patent number 6,226,356) in view of Payne et al. (US 2001/0031048).

Regarding **claims 1 and 31**, Brown discloses that a method of reducing power required for transmitting a signal from a first transceiver to a second transceiver (column 3, lines 45 – column 4, lines 28 and Fig. 1). Brown teaches that estimating at said first transceiver an excess amount of power used by said first transceiver for transmitting said signal (column 4, lines 29 – column 5, lines 39 and Fig. 2a, 2b, where teaches measurement circuit measures the line characteristics of the subscriber line, and control logic determines the transmission power required by the driver to drive a signal onto the subscriber line including utilizing mathematical equation or look-up tables), wherein said excess amount of power for said signal is based at least in part on a value obtained during initialization (Fig. 1, 2 and column 4, lines 29 – column 5, lines 39, where teaches power regulation (adjusting (increase or decrease) power) of digital data transmission means

determining initial power and adjusting (increase if lower than threshold (initial power) or decrease if excess amount power than threshold) transmission power level, more specifically, if there is not determining/estimating the initialization power (threshold), can not adjust the power level). Brown teaches that reducing a power use of said first transceiver by said excess amount of power to a reduced power level (column 8, lines 11 – 52 and Fig. 2, 6, where teaches control logic determines the transmission power required by the driver to drive a signal onto the subscriber line including utilizing mathematical equation or look-up tables and adjusts the transmission power of the DSL driver of the user interface). Brown teaches that transmitting said signal from said first transceiver using said reduced power level (column 8, lines 11 – 52 and Fig. 2, 6, where teaches control logic adjusts the transmission power of the DSL driver of the user interface), wherein said reduced power level achieves a transmission rate (determining sample rate) of said signal within a predefined tolerance of a target rate thereof (column 8, lines 11 – column 9, lines 20 and Fig. 6, 7 where teaches as determining transmission power and adjusting power achieve transmission sample rate within a predefined tolerance of a target rate (inherently setting up a predefined tolerance of a target rate by relationship with transmission power and transmission rate for making mathematical equation, look-up tables, or graphic for quality reception)).

Brown does not exactly disclose the limitation "detecting power of the signal received during an initialization sequence". However, Payne discloses the limitation "detecting power of the signal received during an initialization sequence" (pages 3, lines 19 – 27, Fig. 3, pages 2, paragraphs 20 – pages 3, paragraphs 24, where teaches detecting

power of the signal received during an initialization sequence, and adjusting the transmission power (increase or decrease power) based upon estimating the received power). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Brown system as taught by Payne, provide the motivation to enhancing the power control for reducing the power and improving the signal quality in communication system.

Regarding **claim 2**, Brown discloses that the first transceiver is located at one of a central office and a remote loop carrier, and comprises a downstream transmitter and an upstream receiver, and wherein said second transceiver is located at an end user location and comprises an upstream transmitter and a downstream receiver (Fig. 1, 3, column 5, lines 41 – column 6, lines 43, and column 3, lines 45 – column 4, lines 28, where teaches the host interface is located at a central office and loop carrier, comprises downstream and upstream transceiver and user interface is located user location).

Regarding **claim 3**, Brown discloses that the excess amount of power for said signal is estimated in accordance with a measured value of upstream attenuation (line characteristic) (column 8, lines 11 – 52, Fig. 2, 6, and column 4, lines 29 – column 5, lines 39, where teaches control logic determines the transmission power required by the driver to drive a signal onto the subscriber line including utilizing mathematical equation or look-up tables and adjusts the transmission power of the DSL driver of the user interface).

Regarding **claim 4**, Brown discloses that the measured value of upstream attenuation is calculated as a difference between a total transmit power transmitted from

said upstream transmitter and a measured power of an upstream signal received at said upstream receiver (column 8, lines 11 – 52, Fig. 1, 2, and column 4, lines 29 – column 5, lines 39).

Regarding **claims 5 and 18**, Brown discloses that a value of said excess amount of power of said signal is associated with a value of said upstream attenuation in a table (column 4, lines 29 – column 5, lines 24 and Fig. 2, where teaches the amount of transmission power required to drive the signal can be determined in a variety of ways, including look-up table).

Regarding **claim 6**, Brown discloses that the first transceiver estimates per carrier signal-to-noise ratio (SNR) in accordance with bit-per-carrier, power-per-carrier, and SNR margin information received from said second transceiver (column 8, lines 28 – column 9, lines 20 and Fig. 6, 7, where teaches transceiver measures signal to noise in accordance with bit per carrier (rate, bandwidth), transmission power, and SNR information).

Regarding **claim 7**, Brown discloses that the first transceiver uses said bit per carrier information for estimating a rate of said signal and a rate of said signal transmitted at a selected reduced power level, for ensuring said transmission rate is maintained within said predefined tolerance (column 8, lines 11 – column 9, lines 20 and Fig. 6, 7 where teaches as determining transmission power and adjusting power achieve transmission sample rate within a predefined tolerance of a target rate (inherently setting up a predefined tolerance of a target rate by relationship with transmission power and

transmission rate for making mathematical equation, look-up tables, or graphic for quality reception))).

Regarding **claims 8 and 10**, Brown discloses that a second initialization is required for transmitting said signal at said reduced power level (column 8, lines 11 – column 9, lines 20 and Fig. 6, 7).

Regarding **claim 9**, Brown discloses that the first transceiver reduces said power in accordance with excess SNR provided by said second transceiver (column 8, lines 28 – column 9, lines 20, Fig. 6, 7, and column 5, lines 60 – column 6, lines 19).

Regarding **claim 11**, Brown discloses that the excess amount of power is estimated by estimating an excess amount of SNR at said second transceiver for said target rate (column 8, lines 11 – column 9, lines 20, Fig. 6, 7, and column 5, lines 60 – column 6, lines 19).

Regarding **claims 12 and 25**, Brown and Payne disclose all the limitation, as discussed in claim 1. Furthermore, Brown further discloses that the first transceiver provides said second transceiver with a minimum SNR inflated by a value N corresponding to said excess amount of power, and wherein said first transceiver transmits at a power level reduced by said value N if said second transceiver is capable of supporting said minimum SNR inflated by said value N (Fig. 1, 5 and column 7, lines 66 – column 8, lines 67, where teaches detecting the power level and providing the power value, and adjusting the power for a certain amount value with low signal noise ratio).

Regarding **claim 13**, Brown and Payne disclose all the limitation, as discussed in claim 1. Furthermore, Brown further discloses that calculating at said second transceiver

an attainable reduced power level for said transmitted signal (column 4, lines 29 – column 5, lines 39 and Fig. 2, where teaches calculating at a transceiver an reduced power level for transmitting signal and adjusting the transmitting power level). Brown teaches that communicating said reduced power level between said second and first transceivers (column 4, lines 29 – column 5, lines 39 and Fig. 2), wherein said first transceiver adjust its power level during a first initialization and prior to a time period that require a second initialization (column 6, lines 44 – column 7, lines 35 and Fig. 2, 4, where teaches as performing the power deriver, the detecting the initialization power and adjusting the power for setting if the power is too high or low than threshold, and detecting again transmission power level as second initialization power by automated procedure on time periodic basis).

Regarding **claim 14**, Brown discloses that the second transceiver indicates a power cutback implicitly by reducing power-per-carrier information

Regarding **claim 15**, Brown and Payne disclose all the limitation, as discussed in claims 1 and 13. Furthermore, Brown further discloses that for reducing power required for transmitting a signal from a central office asymmetric digital subscriber line (ADSL) termination unit (ATU-C) to a remote ADSL termination unit (ATU-R), wherein said ATU-C includes a processor for controlling said ATU-C to implement processing (Fig. 1, 3, column 4, lines 7 – 28, and column 5, lines 51 – column 6, lines 43, where teaches the host and user interface are ADSL interfaces with processor for controlling).

Regarding **claim 16**, Brown and Payne disclose all the limitation, as discussed in claims 3 and 15.

Regarding **claim 17**, Brown and Payne disclose all the limitation, as discussed in claims 4 and 15.

Regarding **claim 19**, Brown and Payne disclose all the limitation, as discussed in claims 6 and 15.

Regarding **claim 20**, Brown and Payne disclose all the limitation, as discussed in claims 7 and 15.

Regarding **claim 21**, Brown and Payne disclose all the limitation, as discussed in claims 8 and 15.

Regarding **claim 22**, Brown and Payne disclose all the limitation, as discussed in claims 9 and 15.

Regarding **claim 23**, Brown and Payne disclose all the limitation, as discussed in claims 10 and 15.

Regarding **claim 24**, Brown and Payne disclose all the limitation, as discussed in claims 11 and 15.

Regarding **claim 26**, Brown and Payne disclose all the limitation, as discussed in claims 13 and 15.

Regarding **claim 27**, Brown and Payne disclose all the limitation, as discussed in claims 14 and 15.

Regarding **claims 28 and 30**, Brown and Payne disclose all the limitation, as discussed in claims 14 and 15. Brown further discloses that the transmission step is performed during initialization at a time before transmission of C-REVERB (adjusting transmission power has been determined) (Fig. 1, 2 and column 4, lines 29 – column 5,

lines 39, where teaches power regulation (adjusting (increase or decrease) power) of digital data transmission means determining initial power and adjusting (increase if lower than threshold (initial power) or decrease if excess amount power than threshold) transmission power level).

Regarding **claim 29**, Brown and Payne disclose all the limitation, as discussed in claims 14 and 15. Brown further discloses that the first transceiver adjusts its power level before transmission of C-REVERB (adjusting transmission power has been determined) (Fig. 1, 2 and column 4, lines 29 – column 5, lines 39, where teaches power regulation (adjusting (increase or decrease) power) of digital data transmission means determining initial power and adjusting (increase if lower than threshold (initial power) or decrease if excess amount power than threshold) transmission power level).

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bae et al. (US Patent number 5,832,387) discloses Adaptive Power Allocating Method and Apparatus for Mnlticarrier Transmission System.

Bingel (US Patent number 6,549,568) discloses Automatically Adjusting the Transmit Power of Data Communication Equipment Operating in a Multipoint Environment.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed (703) 308-9051, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters, Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay Aung Maung**, can be reached on **(571) 272-7882**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L
January 3, 2006

John J Lee

1/10/06
TILAHUN GESESSE
PRIMARY EXAMINER